NEWS SCIENCE NEWS

WHY THE ELECTRIC BATTERY WAS FORGOTTEN

Over 50 years ago, Wilhelm Konig, the then Director of the Baghdad Museum, reported the discovery of an electric battery 2,000 years old.

You had not heard about this sensational discovery? We can tell you why. It did not fit in with the established viewpoint. Most archaeologists did not want to know about it and hoped it would go away.

But Konig's electric battery did not go away. In fact, a lot more of them were found in Parthian settlements near Baghdad.

The battery Konig discovered consisted of a pottery jar 14 cm high and 8 cm in diameter with a 3.3-cm opening at the top. Inside this opening, and held in place with asphalt, was a tube made of a copper sheet 10 cm long and 2.6 cm in diameter. The tube was sealed at the bottom with a copper disc held in place with more asphalt. Suspended from the asphalt lid was an iron rod 7.5 cm long which hung down inside the centre of the copper roll.

The use of asphalt sealing indicated that the contraption must have contained some liquid. At that time, all available liquids apart from vegetable and mineral oils were acidic; so the logical conclusion was that the pottery jar and its contents were for the production of an electric current. Vinegar was the most likely acid that would have been used. But it was the purpose to which this electric current could or would be put that produced some embarrassment.

About the only likely solution to this question was that it was used for electroplating, but no electroplated items had ever been found, and, in any case, there is a lot more to electroplating than the production of a mild electric current.

Now, Paul T. Keyser of the University of Alberta in Canada has come up with an alternative suggestion. Writing in the prestigious archaeological *Journal of Near Eastern Studies*, he claims that these batteries were used as analgesics. He points out that there is evidence that electric eels were used to numb an area of pain or to anaesthetise it for medical treatment. The electric battery could have provided a less messy and more readily available method of analgesic.

Of course, the 1.5 volts that would have been generated by such a device would not do much to deaden a patch of skin, so the next conclusion was that these ancient people must have discovered how to link up several batteries in series to produce a higher voltage.

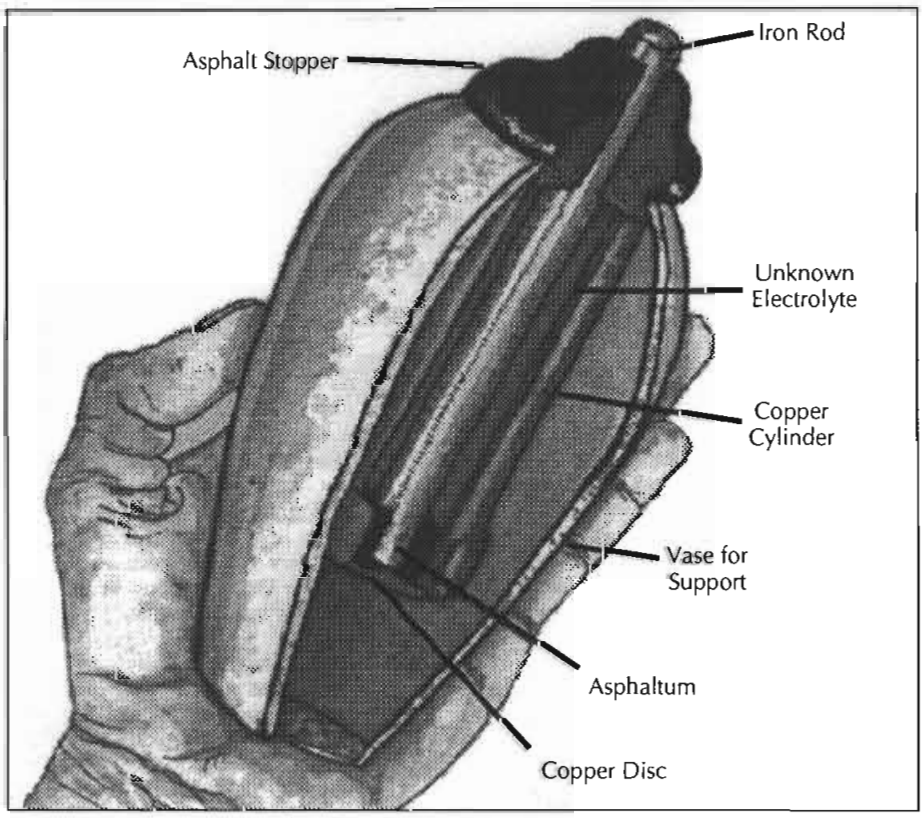
Paul Keyser wrote that, "Mesopotamian medical practice included a number of elements conducive to the reception of an electrotherapeutic device of this sort". In Sumeria, Akkad and Babylon there were two types of physicians, the "Asu" and the "Asipu". The latter practised diagnosis of the patient's symptoms, or divination to determine the nature of the affliction. The former prescribed the medicine or practised incantation to provide healing. They may have been the ones to apply electric shocks to the patient's stricken parts.

Keyser considers it significant that bronze and iron needles were found alongside the battery devices found in Seleucia. He suggests that these needles may have been used for acupuncture, and points out that acupuncture was already standard practice in China.

Electric fish were used for medicinal purposes in Greek and Roman times for relieving headache or gout. Scribonius Largus wrote long ago: "For any sort of foot gout, when the pain comes on it is good to put a living black torpedo fish under his feet while standing on the beach; not dry, but one on which the sea washes until he feels that his whole foot and ankle are numb up to the knees."

But while electric fish are found in the Mediterranean Sea and in the Nile River, they are not found in the Persian Gulf or the rivers of Mesopotamia, hence the need to invent an electric battery.

But all that was just too much for the establishment. It did not fit in with the usual concept of the development of *Homo sapiens*, the brilliant generation of modern



man which had slowly evolved from primitive ape-man to our sophisticated scientific society. The Parthian batteries were before their time and were best forgotten.

Actually, this unwelcome discovery had been publicised by Rene Noorbergen before Keyser's article appeared in the April 1993 edition of the *Journal of Near Eastern Studies*.

Rene Noorbergen, an American journalist-turned-college lecturer, wrote a book called *Secrets of the Lost Races*. He not only wrote a whole chapter about the forgotten batteries but drew attention to a good many other artefacts that did not fit the established view. He called them "ooparts"—out of place artefacts.

In 1967, papers across America reported the discovery of human remains, and a well-tempered copper arrowhead in a silver mine in Colorado at a depth of 400 feet. By standard chronology it would have to be dated as several millions of years old.

The June 1851 edition of *Scientific American* reported that a beautiful metallic vase had been blasted out of solid rock in Dorchester, Massachusetts. The vase was adorned with six flowers and was inlaid with silver, but the rock was considered to be millions of years old.

On 22nd June 1844, workmen were blasting granite rock near Rutherford Mills, England. Embedded in the rock was a man-made gold thread. Geologists who examined the rock estimated it to be 60 million years old.

At the Kutb Minar in Delhi, India, is the Ashoka Pillar which is a 10-metre-high iron pillar weighing six tonnes. It has been standing there since 413 AD at the latest, yet it shows little trace of rusting. Modern technology has taken a long time to come up with stainless steel, but King Chandragupta's men seemed to have known the secret back then.

Noorbergen draws attention to the well-known problems associated with building the pyramids. He concludes that "the builders used construction and engineering skills and techniques known only to them". We would have to acknowledge that modern man, with all his brilliant achievements, would not be able to erect such stupendous monuments with the primitive equipment we think was available then.

As for the cave-man concept, Noorbergen points out that there is no evidence that people who lived in caves had shaggy hair and receding brows. This is all just part of the supposed scene, the way the artists think it should have been.

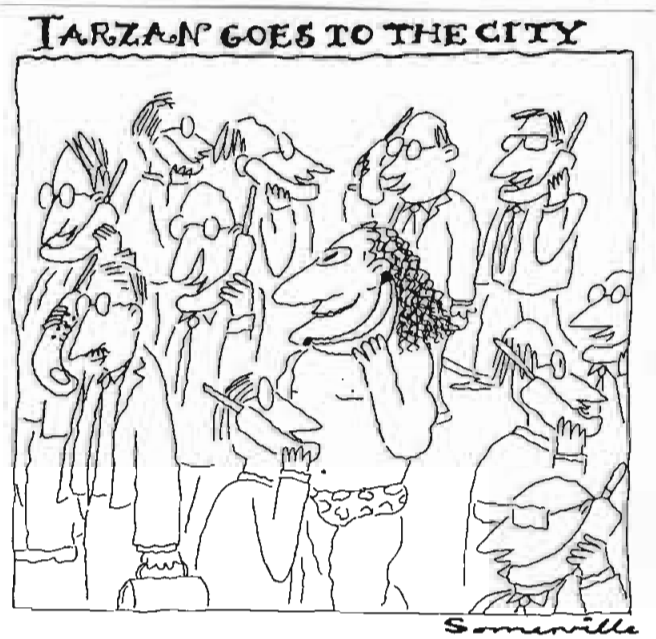
In reality, there is plenty of evidence to show that people in the Stone Age were highly intelligent and had an advanced culture. Their stone plates, bowls and vases were skilfully made and the artistic designs on them reveal a sophisticated art form.

Robert Silverberg wrote: "The cave paintings are upsetting to those who prefer to think of Quaternary man as little more than an ape." (*Man Before Adam*, p. 191) And the great archaeologist W. F. Albright wrote: "It is very doubtful whether man's artistic capabilities are actually any higher today than they were in late prehistoric times." (*From the Stone Age to Christianity*)

Of course, some people *did* live in caves, but, as Noorbergen points out, there are people today living in caves alongside modern cultures.

So, let's bring the batteries out into the open and recognise that it is only because of the accumulation of knowledge through the centuries that we have computers, rockets and atom bombs today.

(Source: Archaeological Diggings, Oct/Nov 1994; PO Box 341, Hornsby NSW 2077, Australia)



SLOTTED SONIC NOZZLE
Chemical Liquid Scrubbing of Car and Truck Exhaust

Dear Sir: I read Catherine Simons' "The Lies of Unleaded Petrol" in NEXUS Aug-Sept '95 issue with considerable interest, but now wonder if the trials and tribulations I had with chemical liquid scrubbing trials on car exhaust in Detroit in 1971 would be of any interest to your readers.

It may just be possible that chemical liquid scrubbing can finally completely clean up all types of chemicals and particulates still left in the exhaust system, without trying to move over to electric cars or the major change to using hydrogen gas.

In that very early 1971 period, the American EPA had not as yet selected the catalytic converter and *they had a strong interest then in chemical liquid scrubbing of car and truck exhaust*—which is so common in cleaning up factory flue gas pipes in industry—but how to make the system small enough for a car was the problem.

Unfortunately, the American Government had an incredibly absurd mandate that their *EPA Auto Emission Control Test Laboratory* in Ypsilanti (just near Detroit in Michigan) *was forbidden to do any test of new and unknown technology*: it had to be tried first by an outside private corporation research body, designated by the EPA. But this could lead to very obvious acts of *fraud* in supply of testing results to the EPA—which happened in my case. (The EPA *still* has this very strange ruling, and now the test costs before they review anything are USD$50,000 and more.)

The initial work for this development started in Australia, but was mainly done overseas, and this is how it happened.

Around the 1965 period, my (now late) elder brother, David Bodycomb, was a research technician with APPM's paper-coating mill at Ballarat in Victoria, and he hand-soldered together a very crude device of open slots to try experimental high-speed runs of spray-coating paper and board with coloured starch and clay without streaking, and the device made a sonic whistle.

But APPM people in those days had no interest at all in trying to stop overruns of coloured pulp stock from polluting lakes, rivers, streams and the sea. So he gained a written release for me to proceed where I was in Canadian Pulp and Paper Industry Research in Montreal, Canada.

I had a much larger 34-inch-wide machined version made where the high-

pitched sonic scream could be changed with vernier screws and without streaking. It was successful in spray-coating of heavy board at 3,000 feet per minute. But the contract for a coloured newspaper for midday New York was cancelled, so the valuable prototype was ordered sold as brass scrap metal.

I thought to try putting waste pulp mill chip-cooking black liquor through it, and the pulping research chemists were incredulous when it showed *instant* chemical conversion, as this process usually takes up to 12 hours for the same result. Seen as 20 years away, there was still no interest, but I did receive permission to have a *round inward-firing* version that again astonished the chemists as it *recombined the atomised spray straight back to a liquid column.* But again, with no interest, I was able to get a written release on the two very valuable prototypes, to proceed on my own at my own expense.

At this point the American EPA Auto Emission Control people in Washington, DC and at Ypsilanti took an interest, as my device ran off just 4 psi of a four-stage Lamson blower with 4 psi liquid pressure to match—*so it could run off the 9 psi to 14 psi back-pressure in a car exhaust pipe*, plus the round version could muffle the noise.

This was the 1970-71 period in America, before the catalytic converter was accepted by the EPA for 1975 Detroit production-runs on cars. The EPA was responsible for much of the chemical liquid scrubbing of particulates and chemicals from flue gas pipes in factories and such, but *until my device came along there appeared to be no way possible to make a system small enough to fit in a car exhaust pipe.*

I had already proved that very high volumes of low-pressure liquid and gas could pass through the slots of the sonic nozzles, plus multi-slot versions could be built for much larger diesel engines in ships, rail locomotives and such.

At this time, the leader in the technology—with their corporate patent filed on the *special non-freeze chemical required for the car exhaust scrubbing*—was *Dow Chemical* of Michigan. I selected Ethyl Corp. Research Lab in Detroit to do my trial on a Plymouth V8, from the list the EPA sent me.

When I arrived at Ethyl in Detroit for the trial, the special chemical that was supposed to be recycled through my device had not arrived from Dow Chemical. We had to use just water. I watched while there was an official *EPA-designated cold-start and hot-start test-run* with my device attached to the exhaust tailpipe, and I discussed with Ethyl chemists and engineers what sort of *gas conversion* we might expect. I saw the samples carried up to their laboratory for analytical testing.

I was astonished when, back in Montreal, the Ethyl people wrote to the EPA and me, *denying that they had even looked for a change in the gas composition!* We were given *particulate trapping of 50% total and lead-trapping of 33%.*

Just imagine what would happen if my system had been developed fully and today's lead-petrol cars all had a third of the lead caught and half the total particulates caught (which I believe would have meant the PMIO ultra-small particulates that *New Scientist* magazine of England has recently so thoroughly written up as suspected by the EPA as causing asthma, most noticeably in children). But this is not the whole story, as the heat of the exhaust gas would be expected to boil away the chemical being recycled.

Shortly after this, the Californian Air Resources Board (CARB) Haagen-Smit catalytic converter dry-system was accepted by the EPA, and *all work on chemical liquid scrubbing of car and truck exhaust stopped for good.* For the next seven years I drove about 8,000 miles around America trying to get interest started again, as *everyone knew that the catalytic converter made 6% to 15% more carbon dioxide than a car without one on.* Even in Los Angeles, the CARB people refused to come out to my car to look at the nozzle. They told me they had no pollution problem in the air and I was to go away. I drove on up to Vancouver and put the two prototype nozzles on a ship to come back to Australia with me.

Professor Jackson at Monash University in Melbourne first took an interest in them as I tried the round one on black liquor after work at APPM Research in Fairfield, Melbourne. I was astonished to discover that the *hotter* I achieved with the black liquor and the air flow, the *worse* the conversion became. Jackson watched the spray recombining to a liquid column in a sink at Monash University, but before we could try the next day for lowering pressure and temperature in *coal-to-oil* and *gas-to-synfuel*, a hare-brained idiot on Professor Potter's staff (the head of Chemical Engineering) unhooked the lines. He carried the nozzle out to my car and told me to go away. He said he could see up to six possible applications for the nozzle and he would steal the technology. Later I met Potter, who was very insulting and told me to do a six-year course in Chemical Engineering to get a Ph.D. before I came back.

The federal government in Canberra did not want to give a grant to look at sonics converting chemicals, as a professor at ANU had told them all that sonics *never* converted any chemicals.

Scientific American and *US Chemical Engineering* finally came out with long articles on sonics converting chemicals,

explaining that *the action works best on cold liquids and gases*, with the liquids being *dense* in nature. This obviously meant that my system, if used in North America, Canada, England, Sweden, Russia and Japan, would do its *best job on cold-start* on winter days at -20°C, when the *catalytic converter cannot work at all until it reaches 400°C*. My device could shut down when the liquid was hot.

The reason that sonochemistry works is because collapsing bubbles cause nanosecond bursts of energy in the order of 3,000°C and pressures of 10,000 atmospheres and such.

There would not be any catalytic converters on today's cars if they had not been made *law* in America—thus it has to be made law for a chemical liquid scrubbing system to be fitted.

Corporations like Ford, GM, Chrysler and Cummins Diesel in America, SAAB and Volvo in Sweden, and Peugeot in France have all written to me to say they have no interest in trying my device. Neither have Dow Chemical and Du Pont in America, BASF in Germany and ICI in England shown any interest at all in developing the special chemical that would be required, even though the sale of the chemical and extra money made in recycling it when cleaned would have to be astronomical for profits.

In Australia, the federal government has no interest at all in seeing my prototype nozzles tried in any sort of test to do with the environment. BHP and CRA were not interested, CSIRO the same, and technical colleges like RMIT and various university groups gave the same answer. A week or so ago I received a letter from the NRMA in Sydney to say that they thought the catalytic converter was just wonderful and solved all our problems and that they did not want to run any trials of my device. The RACV here had once said the same thing.

There appears to be one extra problem that has cropped up in using a system such as mine. The use of exhaust-driven turbo-blowers on some types of high-performance cars means that the exhaust pipe is opened way up to drop back pressure to around 1.5 psi, which appears at the moment to be too low a pressure to run my nozzle. Many large diesel engines use these exhaust-driven turbo-blowers, so they may also have the same problem.

Other types of sonic devices used in industry around the world are air/liquid types using very high pressure of 80 psi to 100 psi to operate to achieve fine atomisation, and they have low throughput. The electric-type sonic devices are mainly used to drop into baths of fluid—but it was this type tried out by the mining industry in Australia that caused such a great blow to researching with sonics in this country and caused the ANU professor to advise the federal government to do no further work in this field of using any device incorporating sonics for chemical conversion.

Around 1987, a letter I received from AusIndustry in Canberra stated that only recently an extraordinary *law* had been passed here and this *forbad any government research establishment from doing any tests to assist private inventors with prototypes*. This, of course, is just complete and utter madness, as, overseas, a move is going forward to have *more* private inventors assisted by governments in having their trials of prototypes done. We are in reverse to the rest of the world in this regard, and the private inventor here is seen as a lower life-form.

It is just possible that mention of my work (and failure!) may attract some interest somewhere, perhaps even in another country, to see my sonic nozzle prototypes tried further.

Just for passing interest, the pulp mill trial on black liquor showed *instant* chemical conversion, with one pass through the device, of NaHS at 13.3 g/l to NaHS at 3.9 g/l. The prototype is far heavier and larger than necessary for pulp mill trials; but for a car exhaust pipe, the muffler/silencer would need to be replaced and the plates would need to be of pressed metal. My present device has a larger chamber below so as to distribute such low-pressure gas evenly around the inner slots.

Yours sincerely,
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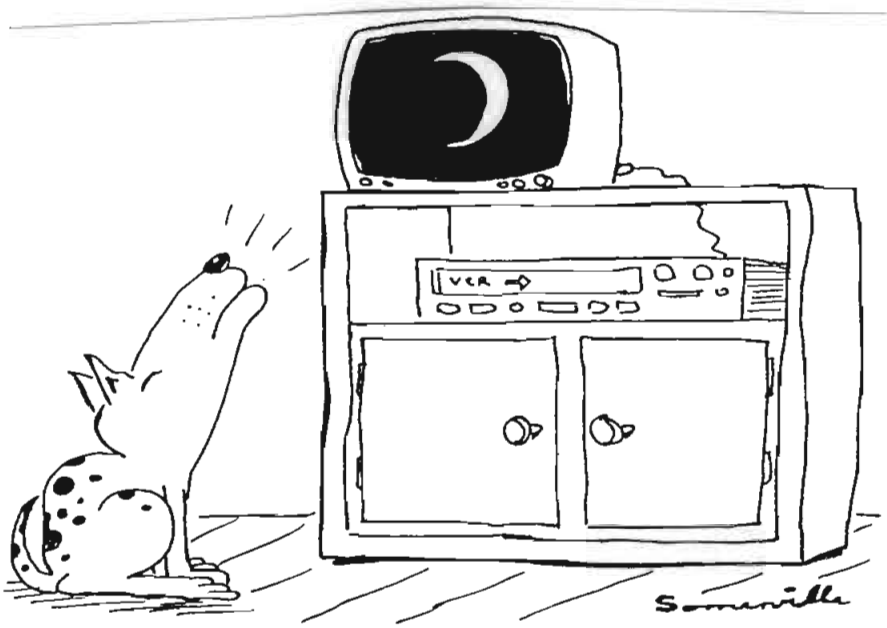
4 August 1995



About the Author:

Alistair Bodycomb was born in Sydney and educated in Melbourne. Working in equipment development, he spent four years with the Australian Department of Agriculture and three years in England. In Canada, he spent four years on the scientific staff at the University of Toronto, working on lake pollution equipment development. Mr Bodycomb spent 10 years in Engineering and Development Central Research of a large Canadian corporation, doing research and production-line work as an inventor/designer (with 16 corporate patents in his name) on combined government/environmental pollution projects. The foremost of these inventions, now used in over one-third of cars produced (including GM and Toyota), was *dry* fibre-compacted auto door-trim panels (wrongly called the Hirotani process of Japan) where he had wet fibre scrap dies of Fibrit-process door-trim panels brought from Italy to Canada for his trials.